ROCKS and MINERALS

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Contents for March, 1943

CHIPS FROM THE QUARRY 66
HOBBYIST OF THE MONTH—RAYMOND R. HIBBARD. *By Irving G. Reimann* 67
SCHORTMANN EXHIBITION SALE—Dec. 11-12, 1942 70
LARGE CHRYSOBERYL FOUND AT PARIS, ME. *By Philip Morrill* 77
MINERAL PAPERS. 1. Field Trips. *By Roy A. Redfield* 78
FOSSIL GRAPEVINE FROM VIRGIN VALLEY, NEVADA 79
SOUTHERN CALIFORNIA LOCALITIES. 5. Jensen quarry. *By Jack Schwartz* 80
SLAG IS NO MINERAL 80
CALIFORNIA MINERAL PRODUCTION FOR 1942 SHOWS INCREASE 81
CLUBS AFFILIATED WITH THE R. & M. ASSOCIATION 82
COLLECTORS' TALES (Golden memories). *By L. Tielmann* 83
CLUB AND SOCIETY NOTES:
NEW YORK MINERALOGICAL CLUB 84
MICHIGAN MINERALOGICAL SOCIETY 84
NEW JERSEY MINERALOGICAL SOCIETY 84
NORTHERN OHIO GUILD 84
MINERALOGICAL SOCIETY OF ARIZONA 84
NORTHERN CALIFORNIA MINERAL SOCIETY 85
PACIFIC MINERAL SOCIETY 85
QUESTIONS AND ANSWERS 85
COLLECTORS' KINKS (Wax for easing a tight cabinet). *By J. C. Boyle* 85
LEIGH BAMBER BERGEN (Obituary notice) 86
MRS. FLORA HAINES LOUGHEAD (Obituary notice) 86
WITH OUR DEALERS 86
INDEX TO ADVERTISERS 96

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The official Journal of the Rocks and Minerals Association

Chips from the Quarry

AN EDITORIAL CREATES INTEREST

Our editorial, Some Problems to be Solved, which appeared in the last issue of ROCKS AND MINERALS, has created considerable interest among our readers and subscribers, judging from the many cordial letters received commenting on it. All were deeply impressed and many suggestions were sent in.

A few subscribers were so solicitous about the welfare of ROCKS AND MINERALS as to urge the Editor to suspend publication for the duration and to enter the services of the government in a capacity where his mineralogical experiences would be of most value. We would, of course, never consider doing this unless at the request of our government. If the government has need of our services then the magazine would have to be suspended because—our country comes first. We believe we can serve our country better in continuing to issue ROCKS AND MINERALS, a magazine devoted to the increase and dissemination of mineralogic knowledge.

We had no idea that the editorial would create so much interest nor did we expect to receive any new subscriptions as a result. But new subscriptions have poured in and are continuing to arrive—one lady sent in five. It has been years since we received five subscriptions at one time from a subscriber—in the early days of ROCKS AND MINERALS they were quite common—so that this deluge almost overwhelmed us.

We are deeply grateful for this manifestation of loyalty and continued interest in ROCKS AND MINERALS and we hope that future issues of the magazine may continue to please. ROCKS AND MINERALS is 17 years old and a number of our subscribers have been taking it from the very first issue—some subscribing before the first number made its appearance. These subscribers are very

dear to us as they never leave us—come what may—until Death, like a thief in the night—snatches them from off our mailing list.

Peter Zodac

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Whole No. 140

HOBBYIST OF THE MONTH—RAYMOND R. HIBBARD

By IRVING G. REIMANN

Curator of Geology and Paleontology, Buffalo Museum of Science

Hobbies, the Magazine of the Buffalo Museum of Science, Buffalo, N. Y., nominates, in its February issue, as hobbyist of the month, Raymond R. Hibbard, paleontologist, whose collection is rated the second best of its kind in the world. A member of several national and other organizations in this field, Mr. Hibbard's most recent honor came from within his home town when last May, in recognition of his achievements and in appreciation for his generosity in helping the Museum build up its fossil collection, its Board appointed him Research Associate in Invertebrate Paleontology.

Hobbies to most of us are interests which relax our minds from the tribulations of our work and from our worries. Mr. Hibbard's hobby has been a career which has brought him distinction in his chosen field and has spread his name through our own and many foreign countries.

Mr. Hibbard became interested in fossils at an early age and some thirty years ago decided to improve his knowledge concerning them by regularly visiting the fossil display of the Buffalo Society of Natural Sciences, then located in the Library Building. He soon discovered that an ordinary home could not accommodate a comprehensive collection of all the kinds of fossils which occur locally, so he decided that the solution was in specialization. While trying to decide upon what to specialize in, he visited the United States National Museum, Washington, D. C., and met Dr. Ray S. Bassler, now head curator of geology at that institution. This contact was to influence strongly the balance of his life. Taking a liking to and an interest in the earnest young paleontologist, Dr. Bassler encouraged him to confine his efforts to the branch of paleontology which deals with microscopic forms, or those forms the study of which requires use of the microscope. This advise was accompanied by the offer to help Mr. Hibbard acquire a noteworthy collection. Dr. Bassler kept his promise magnificently, and today he still sends Mr. Hibbard thousands of specimens and copies of all his many publications.

Raymond R. Hibbard, Buffalo paleontologist and R. & M. A. member, who has become an authority on Bryozoa fossils.

With Dr. Bassler's cooperation and his own energy and initiative, Mr. Hibbard has gradually acquired a collection of the fossil Bryozoa which ranks, according to Dr. Bassler, who is the greatest authority on them, as the second best in the world, being surpassed only by the collection of the United States National Museum.

The Bryozoa, Mr. Hibbard's greatest interest, are tiny animals which live together in colonies of thousands of individuals. The fossil forms build stony

skeletons, as corals do, for the support of their soft tissues. The different species build characteristic skeletons (the only parts preserved as fossils) which are sometimes distinguishable one from another by their external form or markings. Some are disc-shaped; others are ball-shaped, branched, or irregular. Some grow as crusts on other organisms, such as shells or corals. Some are almost smooth appearing; others are rough or spiny. Some have smooth areas or star-shaped patches or lumps on them. All are pitted, and in these pits the tiny animals themselves lived. For accurate determination of species it is usually necessary to grind the stony skeletons so thin that light passes through them easily so that the internal structure can be studied beneath the microscope. Two of these sections must be cut, ground, polished, and mounted on a glass slide. One is cut parallel to the surface and another at a right angle to the surface so that the individual cells and their complex structure can be studied both in cross and longitudinal section.

Mr. Hibbard's profession as a lens grinder particularly fits him for this exacting work, his skill in preparing these sections having been called upon by several important institutions both in the United States and Canada.

Conodonts are Mr. Hibbard's next love. They are somewhat problematical organisms now generally believed to be the teeth of some kind of extinct fish. They are, however, beautiful objects beneath the microscope and resemble anchors, combs, etc. Mr. Hibbard considers his greatest discovery to have been a remarkable assemblage of these teeth in the Rhinestreet shale at Shaleton near Wanakah. Dr. Bassler and Dr. E. O. Ulrich used this material as the basis for the first detailed classification of these objects. They further honored Mr. Hibbard by naming a genus in his honor—*Hibbardella.*

He has extended knowledge concerning the local conodonts by having located them in all of our upper Devonian black shales. Another of his important discoveries was an occurrence of conodonts on Cazenovia Creek as good as the Shaleton locality. The writer had found a few scattered specimens there and took Mr. Hibbard there to see what he could find. Patiently digging away inch by inch, he located the thin conodont-bearing layer. Slabs only a few inches square bore thousands of splendid comparatively specimens. The credit for this find is completely Mr. Hibbard's.

After establishment of the classification, Mr. Hibbard himself contributed a scientific paper to the *American Journal of Science* in which he described a number of additional species new to science. With the co-authorship of the writer, he has another similar paper in manuscript in which some thirty-five additional new species are described.

Third among his interests are the scolecodonts, or the jaws of a marine worm. He has not studied them extensively, but he has succeeded in locating excellent localities for them in the Niagara Gorge and on the Credit River near Toronto, Ont., Canada. Dr. E. R. Eller, of the Carnegie Museum, foremost authority on them, has published three papers as a result of Mr. Hibbard's finds and has honored him by naming one *Lumbriconereitis hibbardi.*

Mr. Hibbard has never lost his interest in other fossils, however, and has collected many thousands of them. Of these he frequently donates unusual specimens to the Buffalo Museum of Science. The others he identifies, labels, and sends as gifts or exchanges to his correspondents all over the world. This, indeed, is one of his most productive means of increasing his general collection of the fossil Bryozoa. He has received many thousands of his collection of over 100,000 specimens in return for local fossils.

No biographical sketch of Mr. Hibbard would be complete without reference to his splendid methods of keeping his collection and his versatility in providing for it. Without special training in carpentry, printing, or photography, he builds his own cabinets of drawers, prints all his own labels, and does his own photography of objects beneath the microscope. His collection is housed on the

second floor of his home at 219 Bissell Avenue and is a model of meticulous neatness and precise labeling. Duplicate material and unstudied material are kept in one room with his grinding and polishing equipment (which he rigged up himself). His systematic collection is kept in his main laboratory where the general collection is kept in Hibbard-made cabinets of fine craftsmanship, each species in uniform neat strong Hibbard-made bristol board trays, accompanied by complete data on Hibbard-printed labels. The collection of local species is in separate cabinets and contains many scores of new, undescribed species. Hundreds of the species have been thin-sectioned, and these Hibbard-made microscope slides are kept in Hibbard-made slide boxes.

Accompanying the collection is a careful catalog. Every specimen is numbered with black ink, and the label is similarly numbered corresponding to his catalog. He has prepared an additional card catalog which illustrates every species of conodont and which bears a description of it and a reference to the publication in which it was described. He has similar catalogs for sections of his bryozoan collection.

A "must" for research is an adequate library, and Mr. Hibbard has spent many years in building what amounts to virtually a complete library. It contains every important publication on bryozoans, conodonts, and scolecodonts, including some very rare items.

In addition to his technical publications, Mr. Hibbard has contributed several popular articles to magazines and newspapers.

Through the years his work has been helped and encouraged by the interest of his wife, Esther, who not only takes pride in her husband's scientific work but also is an enthusiastic collector in her own right. As might be expected of the son of such parents, their son, Raymond E. Hibbard, now with the United States Army somewhere in England, is also a collector of much ability. Even now he finds time to do some collecting and has acquired some choice English specimens for his father's collection.

Mr. Hibbard himself is a veteran of World War I and served with the 212th Engineers.

Let those who blame their lack of knowledge upon the lack of a higher education be heartened by the distinguished example of Mr. Hibbard. His formal education ceased upon his graduation from Public School 39; his subsequent attainments were achieved through his own study. Mr. Hibbard stands as an example of the finest that can be done with an avocation. He has not only filled the hours and years with interesting study, but he has also worked hard, brought distinction to himself, and has enriched the world of science. May his kind multiply and prosper!

Editor's Note: Mr. Hibbard is a member of the Rocks and Minerals Association and has prepared two articles for ROCKS AND MINERALS. The first, *Western New York Conodonts*, appeared in the Dec. 1928 issue; the second, *Conodonts in the Upper Devonian Rocks*, appeared in the Aug. 1942 issue.

They Sell Fast!

Editor, Rocks and Minerals:

Enclosed find 6 cents in stamps for which please mail to me 2 copies of your recently announced PRICE LIST OF BACK NUMBERS OF ROCKS AND MINERALS.

This should be a valuable sort of check list, and I do not see just how you can do all the work involved for what seems to be merely the cost of mailing! !

C. N. KESSLER,
Helena, Mont.

Congratulations! Corning Glass Works!

Corning Glass Works, of Corning, N. Y., a company well known to mineral collectors as the manufacturers of some excellent ultra violet lamp filters, was honored by the Government on Thursday, Feb. 4, 1943, when the Army-Navy 'E' Award for Excellence in War Production was presented to the men and women of its vast organization.

SCHORTMANN EXHIBITION SALE
Dec. 11-12, 1942

Once again another great Schortmann Exhibition Sale has come and gone leaving behind pleasant memories of days well spent. As in former years the Exhibition was held on the 2nd floor of Hotel Shelton, Lexington Ave. and 49th St., New York City.

It was with some fear and misgivings that this Exhibition Sale was held. The war has made many changes and a mineral exhibit might be out of place. Nevertheless, with true American spirit and determination, the Schortmann Brothers (Alvin and Ray) went ahead with their plans—come what may. And with what results? After the Exhibit was over not only had more visitors been present but sales were the greatest of all. In 1941, 63 collectors had made purchases; in 1942 the number rose to 130. Collectors in attendance came from ten states (Connecticut, Delaware, Maryland, Massachusetts, Michigan, New Jersey, New York, Ohio, Rhode Island and Pennsylvania) and one foreign country (Mexico).

In 1941 the Exhibit occupied one room but lasted three days, Thursday, Friday and Saturday, Dec. 11th, 12th and 13th; in 1942 the Exhibit occupied two rooms but lasted only two days, Friday and Saturday, Dec. 11th and 12th.

Naturally a great amount of work is necessary in getting such an exhibition together, perhaps more than anyone realizes. The Schortmanns find, however, that they are rewarded not by the number or amount of sales but by the many friends they make each year. A finer group of collectors could not be found in any other hobby than that which specializes in minerals. It is very gratifying to them to see the many old friends at the exhibits, to feel their hearty handclasps, and to talk with them over various mineralogical experiences. Invariably they hear the remark when friends leave: "We'll be looking for another one of your exhibitions next year. Please do not fail us!"

The Schortmanns have had inquiries a month or two before they had announced the last exhibit requesting information about it—if it would be held as usual? They soon learned that collectors planned to attend months in advance and this time they noticed collectors coming from more distant places; many of these collectors attended the Exhibit in the mornings and spent the afternoons at the American Museum of Natural History. Such a planned trip left pleasant memories that would not soon be forgotten.

When the Exhibit was thrown open to the public at 9:00 on the morning of the 11th, five collectors rushed in—they had been waiting patiently in the hall. From then on, collectors came in a steady stream, at times the rooms were fil'ed to overflowing so that it was most difficult for them to inspect the specimens on display with any degree of comfort and ease —many had to await their turn.

A new feature this year was a fluorescent exhibit with a complete line of the popular Mineralights from California. The number of lamps and fluorescent minerals were so many that they had to have a room all to themselves—hence the 2nd room. Collectors were very generous in their praise regarding the many colorful fluorescent specimens on display as well as the outstanding performance of the Mineralights in action. The special automatic display using the large Heavy Duty Mineralight proved a sensation. The one fluorescent mineral on display that created the most comment was scheelite from Trumbull. Conn. This highly fluorescent mineral (of which there was a large assortment) the Schortmanns had personally collected one night, at the old abandoned tungsten mine in Trumbull, using a portable Mineralight field lamp. A number of Mineralights were sold at thte Exhibit, both portable outfits for field use and the regular type for the inspection of fluorescent minerals in the home or laboratory. Several collectors availed themselves of the opportunity of selecting complete fluorescent collections for use with their Mineralights.

In former years it was customary for us to list every collector who had made a purchase at an exhibition. Due to the large number that participated at the last exhibit, we are forced to omit this feature to conserve space.

Among the minerals on display were:

Actinolite: A very fine specimen consisting of bent, green crystals in a gray rock was captured by a good-looking collector from Easton, Penn. It hailed from Nagaoke Gori, Province of Tosa, Japan. We are glad to report that some good things still come from the Land of the Rising Sun.

Actinolte is a variety of amphibole. It is a calcium-magnesium-iron silicate and received its name from two Greek words meaning *ray* and *stone,* as the mineral is often found in radiated form.

Adularia: The finest adularias (variety of orthoclase) come from Switzerland where they occur in pockets in the high Alps. A choice, white, crystallized specimen from Fiesch, Valais Canton, southern Switzerland, was on display and soon tagged by a collector.

Adularia is a silicate of aluminum and potassium. Its name is from Mt. Adular, one of the summits of St. Gothard, Switzerland, where it was first found.

Albite (Sunstone): This specimen attracted considerable interest as it was the first of its kind to be seen by many collectors. We are familiar with ordinary albite and even with its moonstone and peristerite varities but sunstone was something new. It was tagged early on the first day. The locality was Seiland, Norway.

Albite, a feldspar, is a silicate of aluminum and sodium. It gets its name from *albus,* the Latin word for *white,* in allusion to its common white color. Sunstone is a variety containing numerous inclusions which cause a delicate play of colors. Name is derived from the play of colors.

Amazonstone: This green variety of microcline (a feldspar) is often used for gems and ornaments as it takes an excellent polish. A fine deep-green loose crystal from Crystal Peak, Colo., was admired by many collectors.

Amazonstone, also called amazonite, takes its name from the Amazon River in Brazil, near which it was first found in rolled pebbles. It is a potassium—aluminum silicate.

Ampangabeite: This brownish-red mineral, a niobate of uranium, etc., occurs in pegmatite at Sahamandrevo, S. W. of Ampangabe, Madagascar. It was first found at Ampangabe and received its name from the locality where it occurred in parallel growth with columbite in pegmatite.

Analcite: An interesting feature at the Exhibit was a number of zeolites from a new locality, Benton County, Oregon. Among them were colorless, drusy analcites.

Analcite has a weak electricity by friction and so received its name from the Greek word for *weak.* It is a hydrous sodium-aluminum silicate.

Andalusite: A silicate that was first found in Andalusia, Spain; hence its name. A neat 3 inch dark gray loose crystal from Lisenz, Tyrol, Austria, was on display.

Anglesite: Lead sulphate; first found on the island of Anglesey, in the Irish Sea, (hence its name) at the Parys mine where it occurred in considerable quantity. Splendid crystallized specimens occur at the lead mines on Monteponi, Cagliari, Sardinia (an Italian island in the Mediterranean Sea).

Antimony: One specimen of this massive, tin-white native metallic element was on exhibit. It came from South Ham, Wolfe County, Quebec Province, Canada, where it occurs in veins in argillite.

Apatite: Calcium phosphate containing a little fluorine or chlorine. It received its name from the Greek word, *to deceive,* as it was often mistaken for other minerals, due to its many colors and forms.

One interesting specimen on display, consisting of small purple crystals on

pegmatite, came from the Harvard mine on Noyes Mountain, Greenwood, Maine.

Apophyllite: Hydrous silicate, one of the zeolites. It received its name from the Greek word for *leaf*, due to its tendency to exfoliate under the blowpipe.

Some nice white drusy specimens from Benton County, Oregon, were present; also crystallized, colorless, from Nordmarken, Varmland, Sweden.

Arsenic: A popular locality for this grayish-white native metallic element (which frequently tarnishes to a grayish black) is Schneeberg, Saxony, Germany. A good specimen from this locality was noted.

Atacamite: A basic chloride of copper. First found in the Atacama province of northern Chile, hence its name.

There were on display some handsome crystallized specimens from the copper mines of Bisbee, Arizona, where they occur as secondary minerals derived from malachite and cuprite.

Aurichalcite: A basic carbonate of zinc and copper. Many years ago this mineral was known as Brass ore, because it was a natural compound of copper and zinc; in ancient times brass, a compound of copper and zinc, was called *aurichalcum.* Thus the name aurichalcite.

Some dainty crystallized specimens of aurichalcite from the copper mines of Bisbee, Ariz., where it occurs as a secondary mineral of oxidized copper and zinc ores, had been selected by a number of collectors.

Azurite: Basic cupric carbonate; also known as blue copper carbonate, azure stone, etc. Received its name from its azure-blue color.

Some beautiful crystallized specimens from the famous copper mines of Bisbee, Ariz., where it occurs as a secondary mineral of copper ores, were all tagged by collectors.

Beryl: Beryllium-aluminum silicate. An ancient stone called by the Greeks, *beryllus,* hence its modern name. Among the specimens observed was a sharp loose, almost colorless, crystal from Donkerhook, S. W. Africa. Another exceptional specimen consisted of emerald crystals in mica schist from Habachtel, Salzburg Province, Austria, where it occurs at an altitude of 8,700 feet above the sea, on a steep precipice.

Emerald is a very ancient stone, whose color at one time was said to be the greenist of the greens. The name is thought to be derived from a Sanskrit word signifying green.

Bisbeeite: Hydrous copper silicate. Received its name from Bisbee, Ariz., where it was first found, formed by hydration of shattuckite, with which it is associated. A nice bluish mass from the Shattuck Mine, Bisbee, Ariz., was perceived.

Bismuth: A silver-white native metallic element with a reddish hue which is often tarnished to a darker shade. An interesting specimen, associated with smaltite-chloanthite, from the bismuth mine near Torrington, N. S. W., Australia, created much attention.

Bornite: Copper-iron sulphide. Also known as peacock ore due to its lovely bluish iridescent tarnish. Named after Ignatius von Born, a distinguished Austrian mineralogist who lived from 1742-1791.

Calamine: Hydrous zinc silicate. It received its name from calamus, a reed, due to the slender form (stalactitic) which the mineral often takes.

A very fine specimen of calamine, whitish, crystallized (drusy) on a cellular black limonite, had as its locality the mines of Santa Eulalia, Mexico.

Calcite: Every collector is familiar with the common calcium carbonate which at times occurs in splendid crystals and crystallizations. Received its name from calcium, a metallic element discovered in the mineral, in 1808, by Sir Humphry Davy.

There were many calcites on display. One specimen consisted of snow-white crystals on pale yellowish crystalline dolomite from Camp Bird mine, near Ouray, Colo.; another was colorless, crystallized, from the famous Stank mine, in

Lancashire, England; while a number of pale pinkish cleavable masses were from the mercury mines of Terlingua, Texas—these latter fluoresced and phosphoresced blue under the Mineralight.

Calomel: Mercurous chloride. Received its name from the Greek, meaning *good,* and *black,* because the artificial mercuous chloride was good for certain diseases, especially black bile. An interesting specimen from the mercury mines of Terlingua, Texas, was tagged by a druggist from Mt. Kisco, N. Y.—naturally he would be intrigued by the mineral.

Carpholite: Hydrous silicate of manganese and aluminum. A radiated, brownish specimen from the tin mines of Schlaggenwald, Bohemia (Czechoslovakia) drew its share of attention.

Cassiterite: Tin dioxide. Named derived from the Greek words for *tin stone.*

There were many fine specimens on display, and all from the tin mines of Cornwall, England. Loose crystals were from the New Rosewarne mine, Gwinear, Cornwall; crystallized with tiny rock crystals from Wheal Vor, Breage, Cornwall; and crystallized from the Beam mine, St. Austell, Cornwall.

Cerussite: Lead carbonate. Its name is derived from the Greek word *cerussa,* meaning *white-lead,* as it is commonly white to grayish in color.

Some artistic crystallized, colorless, specimens from the famous Mammoth mine, at Tiger, Ariz., enticed many collectors to tag them.

Chalcanthite: Hydrous cupric sulphate. Also known as blue vitriol. From the Greek, meaning *flowers of copper.*

Collectors are familiar with this mineral in slender fragile stalactites, often quite long, but did you ever hear of it in compact masses suitable for polishing? We never heard of it, either, until we saw it at the exhibit. One very fortunate young lady had the opportunity to tag a large and beautiful, transparent, blue slab of chalcanthite from Bisbee, Ariz. Some collectors were fit to be tied when they discovered what they had missed.

Chalcocite: Cuprous sulphide. Name derived from the Greek word for *copper.*

Some unusual crystallized specimens from the copper mines of Cornwall, England, were tagged by a number of collectors. Among the localities represented were St. Ives Consols mine; West Wheal Basset, Illogan; and Cook's Kitchen, Illogan.

Chalcopyrite: Copper-iron sulphide. Name derived from the Greek word for *brass* and *pyrite.*

The copper mines of Bingham Canyon, Utah, and the East Pool mine at Illogan, Cornwall, England, were represented by a number of choice crystallized specimens.

Cinnabar: Mercuric sulphide. The name is thought to have come from India where it was used for a red resin, called dragon's blood.

Tiny crystals of blood-red cinnabar in veins in rock from Jefferson County, Oregon, were examined by many collectors.

Copper: One of the most popular of the native metallic elements. At the Old Dominion mine, Globe district, Gila County, Ariz., it occurs as small masses in quartzite; and beautifully crystallized at the Relistian copper mine, Gwinear, Cornwall, England. Both localities were represented.

Cryolite: Fluoride of sodium and aluminum. Named from the Greek words for *frost* and *stone,* hence called *ice-stone,* as it often resembles ice when in translucent masses. This mineral is found in commercial quantities only at Ivigtut, Greenland, where it had been mined for many years. A very fine specimen associated with galena, siderite, and chalcopyrite attracted the eye of a New Jersey collector in whose collection it now rests.

Diaboleite: Hydrous lead copper chloride. This is a rare mineral found in only two localities in the world. It was first found in the Mendip Hills, in the northern part of Somersetshire, in southwestern England, where it occurs associated with chloroxiphite. The second locality is the noted Mammoth mine, Tiger (eastern part of Pinal county) in

southern Arizona, where it occurs as bluish masses and crystals commonly associated with boleite, cerussite, and wulfenite.

Diaboleite received its name from the Greek *dia,* apart, and from the mineral boleite. Boleite is a hydrous lead-copper-silver chloride which was first found in the copper mines at Boleo, near Santa Rosalia, Lower California, Mexico.

Diamond: Pure carbon. The name is derived from the Greek word for *invincible,* on account of its extreme hardness.

Two nice crystals, one from the Wesselton mine, Kimberley, South Africa, and the other from Belgian Congo, South Africa, fascinated many of the collectors and especially the ladies.

Diopside: Calcium-magnesium silicate (a variety of pyroxene). It received its name from the Greek words for *twice or double* and *appearance,* signifying that the mineral is found in both opaque and transparent varieties.

A dark green loose crystal from the Rotenkopf, Zillertal, Tyrol, Austria, was one specimen on display.

Embolite: Silver chloro-bromide. Received its name from the Greek for *intermediate,* because it is between the chloride and bromide of silver.

The great silver-lead mine at Broken Hill, N. S. W., Australia, was represented by a fine brownish crystallized specimen.

Eosphorite: Hydrous phosphate of iron, aluminum, and manganese. Received its name from the Greek word for *dawn-bearing,* in allusion to its pink color.

An interesting specimen from the pegmatite quarry on top of Black Mountain, Rumford, Maine, was acquired by a New York City collector.

Epidote: A basic orthosilicate of calcium, aluminum, and iron. Its name comes from the Greek, *to increase,* signifying that the base of the primary form undergoes an increase in some of the secondary forms.

A very fine specimen, black in color and crystallized, from the iron mines of Traversella, Piedmont, Italy, carried the tag of a New Jersey collector.

Euxenite: A niobate and titanate of yttrium, erbium, cerium, and uranium. It owes its name to the Greek word, meaning *friendly to strangers, hospitable,* in allusion to the number of rare elements it contains.

A lustrous black mass from Front Creek Canyon, Chaffee County, Colo., must have tempted one collector as his name was noticed in its tray.

Fluorite: Calcium fluoride. Name derived from the Latin *fluo,* to flow, in allusion to its important use as flux for certain ores.

A large assortment of this beautiful mineral from the lead mines of Cumberland and Durham, England, all crystallized and of various colors; pale brownish, crystallized, from Stollberg, Harz, Germany; and many brown specimens from the limestone quarry at Clay Center, Ohio, which fluoresce grayish-green under the ultra violet light, added color and beauty to the exhibit.

Galena: Lead sulphide. Its name comes from the Latin meaning *lead ore.*

A most interesting specimen, a pseudomorph after pyrrhotite, from the copper-silver mine at Kisbanya, Transylvania, Rumania, created considerable attention. Transylvania was formerly a province of Hungary but after the World War was ceded to Rumania.

Graphite: Pure carbon. Name is from the Greek, meaning *to write,* because it is used in lead pencils.

The finest graphite in the world comes from the island of Ceylon where it occurs in huge deposits. A large lustrous mass of foliated graphite from these mines was on display.

Halite: Sodium chloride. Name taken from the Greek word for *salt.*

There was a nice colorless crystal from the famous salt mine at Stassfurt, Prussia, Germany, but the specimens which created the most interest were the brownish tinted masses from Mojave Co., Calif., which fluoresce pink under the Mineralight. A large number of these specimens were tagged by the collectors.

Heulandite: A hydrous silicate of calcium and aluminum. One of the zeolites. Named after the English collector, B. Heuland.

The most interesting specimens on dislay were the white, crystallized (almost drusy) minerals from Benton County, Ore.

Hubnerite: Manganese tungstate. Named after Hubner, who analyzed it.

Some nice brownish masses from Dragoon, Ariz., were on display.

Hydrozincite: A basic zinc carbonate. Named for *hydro* + *zincite.*

The white masses from Goodsprings, Nev., which fluoresce blue under the u. v. lamps, were much in evidence and many were tagged.

Libethenite: A basic phosphate of copper. Received its name from Libethen, near Neusohl, in Hungary, where it was first found. Some very fine dark bluish crystallized specimens have been found in the copper mine of South Wheal Francis, Illogan, Cornwall, England.

Limonite: Hydrous ferric oxide. Named from the Greek for *meadow,* in allusion to its being commonly found in bogs and meadows.

Some unusually interesting specimens, black in color and hollow tube-like, occur at the Dragon mine, Tintic district, Utah County, Utah, and a number of them was present to intrigue collectors.

Linarite: A basic sulphate of lead and copper. It was thought to have been first found at Linares, Spain, from which it received its name.

Sharp, deep blue crystals in crystalline green brochantite, from the Mammoth mine, Tiger, Ariz., won the admiration of many collectors.

Livingstonite: Sulphide of mercury and antimony. Named after David Livingstone (1813-1873), the African explorer and missionary.

Some collector obtained an interesting specimen, lead-gray in color and crystallized, from the La Cruz mine, Huitzuco, State of Guerrero, Mexico.

Malachite: Green carbonate of copper. Name is from the Greek for *mallow,* from its resemblance to the green color of the leaf of mallows.

The copper mines of Bisbee, Ariz., have produced some of the finest malachite known and a beautiful polished slab was on display.

Microcline: Potassium aluminum silicate. One of the feldspars. Received its name from the Greek, *little inclined,* because the angle between two cleavage faces is 90°22'—90°23', instead of 90°.

Microcline is one of the most common of feldspars but good crystals are always in demand, hence the small sharp gray crystals from Yeomanashi—ken, (Kai), Japan, were all taken by collectors.

Monazite: A phosphate of the cerium metals. Its name derived from the Greek, *to be solitary,* in allusion to its isolated crystals.

Small loose crystals were present from the Ramsey mine, near Toledo, Yancey County, N. C.

Natrolite: A silicate of sodium and aluminum. Name is from natron, soda, which it contains.

Two interesting specimens present were from Europe. Auverque, France, was represented by a white crystallized specimen; Salesl, Bohemia, by a colorless, almost drusy specimen.

Oligoclase: Sodium-calcium-aluminum silicate (a feldspar). Named for the Greek words, *little fracture.*

A very nice specimen of sunstone from the typical locality, Tvedestrand, Norway, was displayed alongside of the albite sunstone.

Olivenite: Basic copper arsenate. Name derived from its olive-green color.

The English localities are noted for their fine crystallized olivenites one of which is the copper mine of Wheal Unity, Gwennap, Cornwall.

Pentlandite: A sulphide of nickel and iron. Named after Joseph B. Pentland.

Pentlandite and pyrrhotite, both massive, are commonly associated together at Worthington, Ontario, Canada.

Pharmacosiderite: A hydrous arenate of iron. Its name is derived from two Greek words, *poison* (arsenic is used as a poison) and *iron.*

The copper mines of Cornwall, England, are noted for their fine greenish crystallized pharmacosiderites where they occur with copper ores. The specimens on display were from the Gwennap mines.

Phenacite: Silicate of beryllium. From the Greek, *imposter, deceiver,* so called because it is apt to be mistaken for quartz.

We noticed two specimens. One was a colorless loose crystal from San Miguel di Piracicaba, Minas Geraes, Brazil; the other a grayish crystal from Kragero, Norway.

Polianite: Manganese dioxide. The name is due to its gray color and is taken from the Greek, *to become gray.*

A choice crystallized specimen from the type locality, Platte, Bohemia.

Polybasite: Sulphide of silver and antimony. Name is derived from the Greek words, *many* and *base,* in allusion to the many metallic bases present in the mineral.

Iron-black crystallized specimens occur at the Yankee Boy mine, Ouray, Colo.

Prehnite: Hydrous silicate of aluminum and calcium. Named after the Dutch Colonel van Prehn who in 1774 brought the mineral from the Cape of Good Hope, South Africa.

Pale greenish, almost colorless masses occur at Ratschinges, Tyrol, Italy; Tyrol was formerly an Austrian province.

Proustite: Sulphide of arsenic and silver. Named after the French chemist, J. L. Proust (1755-1826).

Some of the finest proustites known come from the silver mines of Chanarcillo, Chile, where crystals up to 3 inches long have been found.

Pyrargyrite: Sulphide of antimony and silver. Named for the Greek words for *fire* and *silver,* in allusion to its color.

Nice crystallized specimens occur at the old silver mines in Andreasberg, Harz, Germany.

Pyrite: Iron disulphide. Named from the Greek, *a mineral which strikes fire,* because it gives off sparks when struck with a hammer or other hard object.

The silver-lead mines of Leadville, Colo., are noted for their large, lustrous pyrite cubes but nice crystals also occur at Akadani, Province Echigo, Japan.

Pyrosmaltite: Hydrous silicate of iron and manganese. Its name is derived from the Greek for *fire* and *odor* in allusion to the odor it gives off when heated.

A brown, crystallized specimen from the world-famous manganese mines at Langban, Sweden, created more than the ordinary interest because this locality produces the largest number of mineral species known in the world.

Pyrrhotite: Sulphide of iron. Named from the Greek word, *reddish,* in allusion to its copper-red color.

One large crystal noted from the Potosi mine, Santa Eulalia, Chihuahua, Mexico.

Quartz: Silicon dioxide. The name comes from the German, *quarz.*

There were more quartz specimens present in the main exhibit room than of any other mineral. Among the specimens were *agates,* reddish, polished, from San Leopoldo, Brazil; *amethyst,* crystallized, from Iredell County, N. C., *geodes,* from the Des Moines River, Mo.; *petrified wood,* grayish, from Eden Valley, Wyo.; and *smoky quartz,* crystallized, from Auburn, Me., Conway, N. H., and a very fine capped crystal from Pike's Peak, Colo.

Rhodochrosite: Manganese carbonate. From the Greek, *rose-colored,* in allusion to its color.

Some very fine polished slabs of this gorgeous pink mineral were on display. They were from Catamarca Province, of northern Argentina, and are known among collectors as "Inca Roses".

Samarskite: A niobate and tantalate of iron, calcium, uranium, cerium, yttrium, thorium, etc. It was named after a Russian, v. Samarski.

The most important deposit of radioactive minerals in Brazil is at Divino,

Municipality of Uba, State of Minas Geraes. Fine crystallized specimens of samarskite, associated with crystallized columbite, occur there.

Sanidine: A silicate of aluminum and potassium. Crystals often tabular in form, hence its name from the Greek which means, a *board.*

Some uncommon polished specimens of the moonstone variety, from Grant County, N. Mex., were much in evidence.

Scapolite: Aluminum, calcium, sodium silicate. Named from the Latin, *scapus,* a stem or stalk, in allusion to its occurrence which is frequently in long, slender, striated crystals.

Dark green crystals are found at Laurinkari, Finland.

Scheelite: Calcium tungstate. Named after K. W. Scheele, Swedish chemist.

Gray to yellowish masses and crystals occur at Dragoon, Ariz., which fluoresce blue under the Mineralight; grayish masses occur at the old abandoned tungsten mine at Trumbull, Conn., which also fluoresce blue under the Mineralight.

Sphalerite: Zinc sulphide. Name is from the Greek, *treacherous,* because it has been frequently mistaken for galena.

One of the high lights of the exhibit was the large assortment of black, crystallized sphalerites from a new find in Summit County, Colo. The specimens were unsually good and many if not all taken by collectors.

Spinel: Magnesium aluminate. Name is from the Latin, *spina,* a thorn, in allusion to its pointed crystals.

Loose crystals were present from Ambatomainly, Madagascar.

Vivianite: Hydrous ferrous phosphate. Named after J. G. Vivian, an English mineralogist, who discovered the mineral in Cornwall.

A very fine deep blue crystallized specimen was from Kiura, Bungo Province, Japan.

Zinkenite: Lead antimonite of sulphur. Named after J. K. L. Zinken, director of the Anhalt, mines.

One specimen noted. It came from the Itos silver mine, Oruro, Bolivia.

LARGE CHRYSOBERYL FOUND AT PARIS, MAINE

By PHILIP MORRILL

In the January, 1943, issue of ROCKS AND MINERALS, an article on the Carnegie Museum describes a 2½ lb. chrysoberyl crystal as being one of the largest in the world.

A year ago last Labor Day, I had a few hours to prospect in Paris, Maine. Working into a smoky quartz vein, after dark, I took out about ten pounds of large pieces of chrysoberyl and a number of 1-1½ inch translucent crystals.

I had to return to Boston but on arriving wrote the well-known prospector, Charles Marble, and, also, Freeman Burr, the State Geologist, about my find. They went immediately to the opening I had made and took out about ten more pounds of chrysoberyl, consisting of small crystals, some large pieces, and a large termination of a crystal. This large termination weighs 3½ lbs. and has very sharp faces. The bottom is badly broken; the large pieces probably came from it. The estimated weight of the complete crystal is ten pounds. The pieces are so badly broken from the shooting that it is impossible to put the base together but the top, the termination, is in perfect shape and is now in Mr. Marble's collection.

Mr. Marble is working on an article and is to have the crystal photographed.

On one side of the large chunk is a very small gemmy golden sapphire. The chrysoberyl shows small scales of muscovite and occurred between the quartz mentioned and feldspar.

MINERAL PAPERS

By ROY A. REDFIELD
"Mineral Supply House," Spokane, Wash.

I. Field Trips.

Spring is just around the corner.

If you are tuned in, you can get the most exciting messages at any time now, broadcast over short-wave by Dame Nature herself. There are people, of course, who don't have any receiving set for such ether-waves, but you do, you would not be a rock hound if you did not have certain sensitive filaments in the very core of your brain. "Calling all brxxrxk"—tune a little finer—"calling the faithful, calling all prospectors, Indians, bird-dogs and naturalists—unfinished business, you have unfinished business in the hills. Stop hibernating, wake up. Remember that ledge, that prospect hole you found last fall, that sunny slope—it is time to get ready—time to begin. Drop whatever you are doing, drop it at once. Come on out."

Such messages must be heeded, otherwise they stop coming, and we miss some of the best part of life. On that sunny slope there is a chunk of mineral waiting for you. Better get it. You will be no richer in the monetary sense for having it, but you will be greatly enriched otherwise. First, there is the pure joy of finding and recognizing it—joy enough to brighten a whole afternoon. Second, you have the cultural value of gratifying a disinterested curiosity about nature. And finally there is the spiritual bath that nature gives you while you are exposing yourself to the landscape. Better go. You will have to break off work, of course, but it will be a most sensible use of time.

Field trips and personal collecting are the sound and natural basis for mineral study. You can buy a collection and buy it quickly, of course, just as a *nouveau riche* may buy a thousand dollars worth of books he then calls a library. Books so bought are not a library, and minerals so bought in quantity are not a mineral collection. A real collection must be built, and it will be stored partly on your shelves and partly in your mind. You can buy some items, but they must be assimilated. "That odd crystal of calcite? I found that one October afternoon, in a vug, up by the lake shore. See, it's a nailhead. We don't get many like that around here. The covellite? I had to buy that, of course, it's from Montana. See the suggestion of a hexagon at the edge? It gives a wonderful color if you moisten it." When each piece has associations it belongs to you, and of course the richer associations cling to those you have found yourself.

Be assured that if you lose interest in field trips you will soon lose interest in minerals as a hobby. There are people who pass from one hobby to another; we need not criticise them but they are not rock hounds. A true disciple prefers to control and concentrate his interests. He can best feed his passion for mineral study by getting out where the minerals come from, and so long as he does so his wholesome zeal will always remain fresh.

But suppose one lives in a section where there is little to find, This might look like a real obstacle at first, but it is not unsurmountable. One can go further afield, planning his trips as vacation tours. Or the solution may be found by looking more closely in home territory. There is scarcely any region so devoid of natural exposures that one or two minerals cannot be found there is great perfection. Specialize on the local stuff! There is a particular lore for every mineral, it has its own variations in crystal habit, associations and peculiarities. You may become more of a scientist and get more pleasure out of research in the calcites of the Mississippi limetone country than you would if you had all the riches of the Rocky Mountains to dabble in.

So wherever you are, get out your pick and go. If you want to be a mineralo-

gist, be it out-of-doors. And take the dog, of course. He can teach you a lot about enjoying nature. As for other company, that is according to taste. Robert Louis Stevenson, in "Walking Tours", advocates solitary adventure; mineral fans can read that essay with much profit. If there is to be a company, let it not be too numerous; and if there is to be only a single companion, let there be no sweethearting. It is notorious that love is blind; sweethearting does not go with scientific research. If you are unmarried, go with companions of the same sex; if you are married, go with your spouse. You can depend on it that the wife of your bosom (or your husband) will keep the excursion on a severely practical basis.

The fisherman may come home with an empty creel, and the hunter may find no game, but the mineral collector is always sure to bring back something from a field trip. There is always one treasure sure to be found out-of-doors in any clime; sometimes it is tangible, sometimes intangible. When you can pick it up and put it into your bag it is calcium phosphate, none too common; when you can't see it but feel it inside you it is even more to be prized. Here is one reward that will never fail you, and may you continue to enjoy it, in spite of ration cards!

FOSSIL GRAPEVINE FROM VIRGIN VALLEY, NEV.

Mark M. Foster, a member of the Rocks and Minerals Association, has been mining precious opal in the Virgin Valley of northwestern Nevada for a number of years. He has uncovered and disposed among dealers and collectors not only many specimens of very choice precious opal (fire opal) but large amounts of semi- and moss opal—the latter two fluoresce green under the ultra violet lamp. So well known is Mr. Foster and so fine are his opals that he does not have to advertise them—collectors and dealers make personal visits to his mine to buy up everything he has on hand. He seldom has any opals in stock to advertise.

During April, 1942, a letter was received at the office of ROCKS AND MINERALS from Mr. Foster in which a passage read: "I sure found a pippin of a specimen today—a grapevine with tendrils entwined around it. I am donating it to the U. S. National Museum."

The specimen found by Mr. Foster turned out to be of more than passing interest. It was a fossil grapevine and was the first specimen of its kind to be found in America (only three other localities for fossil grapevines are known in the world and they are all in Germany). The Virgin Valley specimen is about 3 inches long, ½ inch in diameter, and light colored.

The fossil grapevine was found about 300 feet within the main drift of the Rainbow Ridge Fire Opal Mine (worked by Mr. Foster). This is the most famous opal mine in the United States and is noted for its gorgeously colored opal specimens. The mine is in the northwestern part of Humboldt County, on Virgin Creek, a tributary of Thousand Creek. It is about 28 miles southwest of the small town of Denio, Oregon (which is almost on the Nevada line). The geographical location of the mine is about 41°50' N. Lat., and 119° 00' W. Long. The fossil grapevine has been named *Vitoxylon opalinum*.

A very interesting description of the fossil grapevine was prepared by Roland W. Brown, of the U. S. Geological Survey, and printed in the *Journal of the Washington Academy of Sciences*, (Washington, D. C.), Vol. 32, No. 10, Oct. 15, 1942, pp. 287-291, (5 figs.). This journal has just been released.

Mr. Foster is very modest about his interesting find. Says he: "I insist that half the honor of the discovery goes to Peter Zodac for having fed the fire of my collecting ambition by means of his excellent magazine, ROCKS AND MINERALS."

We wonder what Mr. Foster will find next? Some of his remarkable discoveries have been written up and printed in past issues of ROCKS AND MINERALS. Keep watching this magazine and if anything new turns up again we will announce it.

SOUTHERN CALIFORNIA LOCALITIES

By JACK SCHWARTZ

656 South Hendricks Ave., Los Angeles, Calif.

5. Jensen Quarry.

Jensen Quarry is about five miles north of Riverside, two miles west of famous Crestmore, and is situated in the Jurupa Mountains. This quarry is not being worked at the present time, due to the discovery of the much better deposits at Crestmore.

A complete side of a mountain has been removed, its white wall being easily seen miles away. Upon nearing the quarry, millions of tiny cleavages of calcite will dazzle the eyes of the collector, and a good hot California sun will glare off these cleavages and rush Mr. Rockhound back to his car for his sun-glasses.

Beautiful specimens of calcite are easily obtainable. All have a rhombohedral cleavage. White, bluish and tan-stained calcite are found associated with garnet, epidote and aragonite. The writer found a specimen of white calcite, in tiny cleavages, which was perched on a piece of travertine. Someone had taken a lot of time to dig out this piece, had hacked it into a rectangular shape, and then apparently lost or left it.

Since this spot is visited by thousands of collectors, good garnet and epidote specimens are not easy to find. Picks and hammers have smashed the top layer of material and only when going in deep will one be fortunate in finding a good specimen. The writer found a piece of almost transparent calcite (like Iceland spar) with pretty epidote crystals running through it.

Pabst (1938) reports monazite, hornblende and beryl from the Jensen Quarry area.

Harrison (1942) records that wollastonite, scapolite (wernerite), spinel, brucite, and hydromagnesite are also found here.

Literature:

Harrison, C.
1942. *Jensen Quarry — Southern California.* Mineralogist Mag. 10 (4):118.

Pabst, A.
1938. *Minerals of California.* Calif. Div. Mines Bul. 113.

SLAG IS NO MINERAL

During the past few years quite a number of specimens have been sent to the offices of ROCKS AND MINERALS for identification. Though quartz and pyrite were quite numerous, by far the largest number was slag.

Slags are often very beautiful, with bright colors (blues and greens predominating) — sometimes so nicely banded as to resemble agates—so that when found by amateur collectors they create some excitement.

Slags come from blast furnaces. In New York, Massachusetts and Connecticut, and other states as well, there are many old abandoned blast furnaces at or near old abandoned iron mines. Large numbers of slag, sometimes in small heaps, are scattered around these furnaces. Many times these heaps are carted away for road fill or for other purposes and thus specimens may be found miles away from the nearest furnace.

Slag is neither a rock nor a mineral but a furnace product. It can be recognized by its smooth glassy texture, heavy weight (if it is a solid mass), opaqueness (sometimes faintly translucent on the edges), and especially by the smooth, rounded cavities or tiny pits in it. No matter how small the slag may be, a few rounded pits or pin pricks are generally present.

Slags at times resemble obsidian but the tell-tale cavities will always identify them.

CALIFORNIA MINERAL PRODUCTION FOR 1942 SHOWS INCREASE

The total value of the mineral production of California for the year 1942, just closed, is conservatively estimated by the Statistical Section of the Division of Mines, Department of Natural Resources, under the direction of Walter W. Bradley, State Mineralogist, to have been $379,483,000. This is partly detailed in the tabulation below, but as there are more than 60 mineral substances on California's commercial list, figures on the most important items only are available at this early date. The production report forms are being mailed to the operators in all mineral lines, and the detailed and completed report will be compiled and published later.

The estimated total of $379,483,000 is an increase of approximately $5,157,000 over the 1941 total value. The principal substances showing increases in value over the previous year were petroleum, cement, natural gas, miscellaneous stone, borates, potash, quicksilver, tungsten, chromite, manganese ore, iron ore, lead, zinc, and the industrial mineral group. Important minerals to register a decrease in value were gold, silver, and copper.

Petroleum output showed an increase of about 16,854,000 barrels in amount and about 5 percent in value over that of the previous year. The estimated quantity of crude oil was 246,509,000 barrels for 1942. There were no changes in crude petroleum prices during the year but the trend of production was toward that of heavier oils. Natural gas showed an increase in both amount and value of that utilized compared with 1941.

Reports of the mint and smelters show the output of gold to be much less than in 1941. The state's yield of tungsten, quicksilver, lead, zinc, chromite, manganese showed marked increases during the year, while copper, gold, and silver showed decreases. The output of quicksilver and tungsten each exceeded the million dollar mark as well as gold.

Of the structural group, cement, miscellaneous stone, brick, and magnesite all showed increases in amount and value over that of 1941. The cement production was the largest in the history of this industry in California; and all the plants approached capacity output. Under the miscellaneous industrial mineral group, stimulated business conditions and national defense increased the demand for many substances included in this classification so as to make it show a marked increase in total value. The saline group also showed an increase in total value with all of the important items, borates, potash, salt, soda and iodine, registering increases in output over that of the previous year.

The estimated values and quantities for 1942 are as follows:

$ 29,785,000	(851,000 fine ounces) Gold.
908,000	(1,403,000 fine ounces) Silver.
11,854,000	Other metals, including chromite, copper, iron ore, lead, manganese ore, molybdenum ore, platinum group metals, quicksilver, tungsten ore, and zinc.
228,021,000	(246,509,000 barrels) Petroleum.
22,953,000	(399,189,000 M. cu. ft.) Natural Gas.
36,822,000	(24,067,000 barrels) Cement.
20,000,000	Miscellaneous stone; including crushed rock, sand and gravel.
3,740,000	Brick and hollow building tile.
2,500,000	Other structural materials including bituminous rock, granite, lime, magnesite, marble, sandstone, and slate.
8,750,000	Miscellaneous industrial minerals.
14,150,000	Salines, including borates, potash, iodine, salt, soda, and others.
$379,483,000	TOTAL VALUE.

Clubs Affiliated With the Rocks and Minerals Association

ARIZONA

Mineralogical Society of Arizona
Geo. G. McKhann, Sec.. 909 E. Willetta Street, Phoenix.
Meets at the Arizona Museum in Phoenix on the 1st and 3rd Thursday of each month.

CALIFORNIA

East Bay Mineral Society
Miss Nathalie Forsythe, Sec., 1719 Allston Way, Berkeley.
Meets on the 1st and 3rd Thursdays of each month (except July and August), at 8:00 p.m., in the Lincoln School Auditorium, 11th and Jackson Sts., Oakland.

Northern California Mineral Society, Inc.
Mrs. Bernice V. Smith, Sec., 1091 Bush St., San Francisco.
Meets on the 3rd Friday of the month at 422 Belvedere St., San Francisco.

Pacific Mineral Society
Mrs. Maude Oke, Sec., 9115 S. Harvard Blvd., Los Angeles.
Meets on the 2nd Friday of each month at 6:30 p.m., at the Hershey Arms Hotel, 2600 Wilshire Blvd., Los Angeles.

Southwest Mineralogists
Dorothy C. Craig, Corres. Sec., 4139 S. Van Ness Ave., Los Angeles.
Meets every Friday at 8:00 p.m., Harvard Playground, 6120 Denker Ave., Los Angeles.

COLORADO

Canon City Geology Club
F. C. Kessler, Sec., 1020 Macon Ave., Canon City.
Meets on the 1st and 2nd Saturdays of each month at 9:00 a.m. in the High School Building, Canon City.

CONNECTICUT

Bridgeport Mineral Club
Miss Georgianna Seward, Sec., 2859 Main St., Bridgeport.
Meets in the Bridgeport Public Library on the 3rd Monday of the month.

Mineralogical Club of Hartford
Frank P. Rockwell, Secretary, 88 Fern St., Hartford
Meets the 2nd Wednesday of each month, at 8:00 p.m., at 249 High St., Hartford.

New Haven Mineral Club
Mrs. Lillian M. Otersen, Sec., 16 Grove Place, West Haven.
Meets on the 2nd Monday of the month at the Y. W. C. A. on Howe St., New Haven.

IDAHO—OREGON

Snake River Gem Club
Mrs. A. Ingraham, Sec., Box 714, Ontario, Ore.
Meets alternately in Payette, Idaho, and Ontario, Oregon, (two small cities on the Snake River) on the 3rd Tuesday of every month.

ILLINOIS

Junior Mineral League
William Dacus, Sec., Morgan Park Junior College, 2153 W. 111th St., Chicago.

MAINE

Maine Mineralogical and Geological Society
Miss Jessie L. Beach, Sec., 6 Allen Avenue, Portland.
Meets last Friday of the month at 8 p.m. at the Northeastern Business College, 97 Danforth Street, Portland.

MASSACHUSETTS

Boston Mineral Club
Miss M. Gertrude Peet, Sec., 8 Willard St., Cambridge.
Meets on the 1st Tuesday of the month at 8:00 p.m., at the New England Museum of Natural History, 234 Berkeley St., Boston.

Connecticut Valley Mineral Club
Mary E. Flahive, Secretary, 96 South St., Florence
Meets on the 1st Tuesday of each month at 8 p. m. at various institutions in the Connecticut Valley.

MISSOURI

National Geologist Club
Mrs. D. P. Stockwell, Pres., Mt. Olympus, Kimmswick.

NEVADA

Reno Rocks and Minerals Study Club
Mrs. Rader L. Thompson, Sec., Box 349, R2 Reno.
Meets on the 1st Wednesday of each month at 7:30 p.m., at the Mackay School of Mines, Reno.

NEW JERSEY

Newark Mineralogical Society
Louis Reamer, Secretary, 336 Elizabeth St., Orange.
Meets on the 1st Sunday of the month at 3 p.m. at Junior Hall, corner Orange and North 6th Streets, Newark.

New Jersey Mineralogical Society
G. R. Stilwell, Sec., 1023 W. 5th St., Plainfield.
Meets on the 1st Tuesday of the month at 8 p.m. at the Plainfield Public Library.

NEW MEXICO

New Mexico Mineral Society
R. M. Burnet, Sec.-Treas., Carlsbad.

Society of Archaeology, History and Art
Carlsbad.

NEW YORK

Chislers, The
Miss Evelyn Waite, Sponsor, 242 Scarsdale Road, Crestwood, Tuckahoe.

Queens Mineral Society
Mrs. Edward J. Marcin, Sec., 46-30—190th Street, Flushing.
Meets on the 1st Thursday of the month at 8 p.m. at 8501 - 118th St., Richmond Hill.

PENNSYLVANIA

Thomas Rock and Mineral Club
Mrs. W. Hersey Thomas, Pres., 145 East Gorgas Lane, Mt. Airy, Philadelphia.
Meets on the 3rd Friday of each month, at 8:00 p.m., at the home of its president, Mrs. Thomas.

VERMONT

Mineralogical Society of Springfield
Victor T. Johnson, Sec., 11 Elm Terrace, Springfield.
Meets on the 3rd Wednesday of each month at 8:00 p.m. at the homes of members.

WISCONSIN

Wisconsin Geological Society
Milwaukee Public Museum, Milwaukee, Wisc.
Meets on the 1st Monday of each month at 8:00 p.m., at the Public Museum in Milwaukee.

Collectors' Tales

GOLDEN MEMORIES

While reading some of the Collectors' Tales in ROCKS AND MINERALS, *I remembered* one incident that happened to me some years ago. One autumn day my two friends and I decided to go hunting minerals in the Perkiomen valley of southeastern Pennsylvania where several fairly good localities existed; the main objective was the Kibblehouse quarry to which Prof. Myers referred in the October, 1942, issue of this magazine. Although the weather did not look very promising, we went anyway, thinking it might clear up.

We stopped at several places on the way down and found a few specimens here and there. Finally we reached the quarry but on our arrival the rain, which had been light, turned into a torrential downpour which would not let up. So in the car we sat, debating what to do next. A suggestion was made that we go to a nearby town and hunt up a collector we had heard of but never met. We acted at once.

After about a half hour's search we located his house. Knocking on the front door several times, with no response, we thought we had made this trip also in vain. But luck was with us. The door soon opened slowly and an aged man appeared, who, after we had introduced ourselves and explained the nature of our call, bid us enter. We soon learned our old friend was a bachelor, living alone, and that he had done quite a lot of prospecting, years ago, in southeastern Pennsylvania. He claimed to have found several ore veins, of which one was gold and offered to give each of us a piece of his gold ore. He left the room and from his back yard brought in a huge chunk of rock (he could barely carry it). This mass of rock (quartzite), all wet and muddy, he laid down on the carpet and began breaking it up with an old axe—right there in the parlor! The pieces flew in all directions, so much so that we sought shelter behind the furniture, and, thinking of the window panes, tried to persuade him to cease pounding —but the kind old fellow insisted on breaking it up so he could present us with specimens. It was sure a comical sight to see the old man at work in the parlor with his gold ore. Well, anyway, each of us received a gold ore specimen and although our trip to the quarry was spoiled we did spend a delightful afternoon with our prospector friend in his gold mine.

L. Tielmann, Allentown, Penn.

CLUB AND SOCIETY NOTES

New York Mineralogical Club

American Museum of Natural History, New York, N. Y., Wednesday, Jan. 20, 1943.

Convened: 8:20 P.M. Attendance: 43.

The minutes of the previous meeting were read and approved.

Dr. Pough announced for the Education Committee that a course of 6 classes in mineral identification would be given for members on Saturday afternoons at the Museum, starting with the Saturday next following.

Dr. Pough also called the members' attention to U. S. G. S. Bulletin No. 936J on the tin-spodumene belt of North Carolina, and to a recent translation of the "Pirotechnia of Vannoccio Biringuccio" written in 1540. This book deals with ancient methods of mining and smelting and is published by the Yale Press under the sponsorship of the American Institute of Mining Engineers. The price is $5.00.

A letter of thanks for having been made an honorary member was read from Dr. Leonard James Spencer.

Mr. Trainer then introduced the speaker of the evening, Dr. Alonzo Quinn, Associate Professor of Geology and Mineralogy at Brown University. His subject was "The Origin of Rhode Island Minerals."

There are three major rock types in the State, the oldest a set of metamorphics, then a younger set of igneous intrusives, mainly granites, with a still younger set of sedimentaries. Dr. Quinn discussed various localities with respect to the type of rocks in which they occur and their influence on paragenesis. The localities described and the type represented were as follows:

South Foster: Biotite schist.
Manton Ave. Quarry, Providence: Altered basalt (?)
Harris and Dexter Quarries: Limestone.
Copper Mine Hill: Contact metamorphic.
Iron Mine Hill: Magnetite-ilmenite possibly representing magmatic segregation.
Cranston: Graphite mine in sedimentaries.

In connection with the noted occurrence of bowenite serpentine at the Harris quarry, Dr. Quinn mentioned Bowen's series of minerals formed at increasing temperatures by silicate metamorphism of dolomitic limestones. These are: brucite, tremolite, forsterite, diopside, periclase, wollastonite, monticellite, akermanite, spurrite, merwinite, and larnite. The average contact deposit seldom gets beyond the first 3 or 4. Thus bowenite contains traces of residual forsterite and, or diopside.

Numerous specimens were exhibited including bowenite from the Harris quarry, flattened quartz crystals from the Dexter quarry, and some splendid translucent sphene crystals from the Manton Ave. quarry.

A rising vote of thanks was extended to the speaker.

Mr. Marshall spoke briefly of present efforts to find and develop strategic minerals in Connecticut.

The meeting was adjourned at 9:30 P.M.

M. Allen Northup,
Secretary.

Michigan Mineralogical Society

A regular meeting of the Society was held on Sunday, Feb. 14, 1943, at the Public Library in Detroit, Mich. Private Kenneth Garner, of the U. S. Army, was the guest speaker whose subject was "Basic Magnesium of Las Vegas, Nev."

Officers elected at the annual meeting on Jan. 10th are:

President—J. William Bay
Vice-President—J. Fenton Combs
Secretary—Mrs. George W. Corliss
Treasurer—Walter F. King
Director—John Tokar

New Jersey Mineralogical Society

A regular meeting of the Society was held on Tuesday, Feb. 2, 1943, at the Plainfield Library, Plainfield, N. J. The guest speaker was Dr. A. C. Hawkins whose subject was "Where to Collect Minerals in Southeastern United States."

Northern Ohio Guild

A regular meeting of the Guild was held on Thursday, Feb. 4, 1943, at Western Reserve University, Cleveland, Ohio. The program consisted of a lecture on amethyst, February's birthstone, by Dr. Donner of the University; a talk "Curious Lore and Legends of the Amethyst" by Mrs. Nina Martin; Evaluation of a selection of amethysts by individual members—conducted by Mr. Lee Bonwell; and a study session for students in course 012, under supervision of Mr. Harry Erickson. A laboratory session, for those interested in the technic of gem stone identification, was conducted by Mr. Charles Carolyne.

Mineralogical Society of Arizona

Two meetings of the Society were held in February, 1943. On Thursday, Feb. 4th, the program consisted of a business and social meeting and notes on recent new finds in Arizona. On Thursday, Feb. 18th, the meeting consisted of a demonstration on simple field tests for some Arizona minerals; Mr. Scott C Norviel was the guest speaker.

The Society meets at the Arizona Museum in Phoenix.

Northern California Mineral Society

A regular meeting of the Society was held on Friday, Feb. 19, 1943, at 422 Belvedere St., San Francisco. George H. Needham was the speaker whose subject was "Microprojection of rock sections, mineral and chemical crystals with polarized light."

The following officers have been elected to serve for 1943:

President—William Munich
Vice-President—Charles P. Bryant
Secretary—Mrs. Bernice V. Smith
Treasurer—William Kane
Curator—D. Galpern
Librarian—C. Waltermire
Hostess—Mrs. Harriet Thompson
Directors—Thomas J. Oliver
W. N. Lamore
Oscar Frey

Pacific Mineral Society

Dr. Ian Campbell was the speaker at the regular meeting of the Society held at Hershey Arms Hotel, Los Angeles, Calif., on Friday, Feb. 12, 1943. His subject was "A Trip Thru the Grand Canyon Via the Colorado River," illustrated with motion pictures and colored slides.

At the January meeting the following officers were elected to serve in 1943:

President—N. L. Martin
1st Vice-President—Wm. C. Oke
2nd Vice-President—C. C. Brunk
Secretary-Treasurer—Mrs. Margaret Cotton
Field Trip Chairman—H. E. Eales
Board of Directors—R. L. Cotton, R. J. H. Mittwer

Questions and Answers

Ques. "Is English's *Getting Acquainted with Minerals* a book which you would recommend to an amateur mineral collector?" A. A., Tamaqua, Penn.

Ans. It is one of the best books in the country for beginners. By all means get a copy. Another good book is Hawkins' The Book of Minerals. Get this too.

Ques. "Will you please identify the rock which I am sending with this letter?" M. F. C., North Chatham, N. H.

Ans. The specimen is no rock but a slag from a blast furnace. See item in this issue entitled "Slag is no mineral."

Ques. "What mineral is called molly? I heard two collectors talking recently about finding some nice specimens of molly." R. C., Chicago, Ill.

Ans. The mineral is molybdenite. Moly or molly is just a shortened name for it.

Ques. "I have heard that in large coal mines mules are used underground. Why?" E. T., Yonkers, N. Y.

Ans. In all the large anthracite mines of eastern Pennsylvania mules are used underground to pull cars.. Their use is restricted only to the newest workings of a mine to which electrification has not yet been extended.

COLLECTOR'S KINKS

Wax for Easing a Tight Cabinet

I noticed in the January, 1943, issue of ROCKS AND MINERALS that paraffine is suggested for making drawers slide easily in cabinets. Don't use it!!! Paraffine is one of the worst things to use—if the weather is warm or house is warm, the drawer is apt to be *cemented* by the paraffine.

But here's the stuff—Carnauba wax!!! The wax is very hard and has a melting point of 180° F. I have used it for years on the advice of an old cabinet-maker, now dead. It is the ideal stuff—produces a *perfect slip*. It comes from Brazil and may be hard to get now.

J. C. Boyle.

Leigh Bamber Bergen
Nov. 10, 1893—Feb. 3, 1943

Leigh Bamber Bergen, Curator of the Paterson Museum, Paterson, N. J., died Wed., Feb. 3, 1943, at 5:45 a.m. in St. Joseph's Hospital, Paterson. Death was due to a heart condition coupled with asthma.

Mr. Bergen was born in Paterson, Nov. 10, 1893, the son of Mr. and Mrs. Joseph A. Bergen. He was graduated from Princeton University in 1916 with a Civil Engineer's degree. In 1924 he was married to Abigail Cecelia Hawkins. She died in 1937.

Mr. Bergen was keenly interested in science, specializing in geology and mineralogy. When the curatorship of the Paterson Museum became vacant, following the tragic death of the eminent mineralogist, James F. Morton, on Oct. 7, 1941, Mr. Bergen applied for the position. He was given a temporary appointment in Nov., 1941; on June 1, 1942, the position became permanent.

Under his guide as Curator, the exhibits were enlarged, revised, or brought up to date and they were widely publicized in the press and through other channels. The result was that at the close of 1942 more than 22,000 visitors—the largest number in the Museum's history—had inspected the exhibits. Many Patersonians discovered, to their amazement, that their institution contained some of the finest minerals and other natural history specimens in the country. The Museum and the City of Paterson have suffered a great loss in the death of Curator Bergen.

Mr. Bergen is survived by five children, Richard, Muriel, Patricia, Joseph, and Marilyn.

Mrs. Flora Haines Loughead

Mrs. Flora Haines Loughead, known to many western collectors and especially those interested in Virgin Valley opals, died at the home of her daughter, Mrs. Hope Ledford, in Berkeley, Calif., on Wed., Jan. 27, 1943, at the age of 87.

Mrs. Loughead, daughter of Mr. and Mrs. William Penley Haines, was born in Warsaw, Mich. Her father was a newspaper reporter for the *Rocky Mountain News*, of Denver, Colo. Mrs. Loughead took up her father's profession and while on the *San Francisco Call* was sent to the Virgin Valley of northwestern Nevada to cover the opal strike discovery made by a Miller & Lux cowboy.

Once in Virgin Valley she became so intrigued with the beauty of the opal that she purchased several opal claims and located many more. She organized the Rainbow Ridge Mining Co. and was its president for several years. She personally engineered the 570-foot tunnel which that company cut through their Black Opal Claim No. 2. Later she resigned her office to operate independently; she purchased and located some 64 claims among which were the well-known Bonanza, Royal Peacock, Golden Bell, and Northern Light groups.

This elderly lady, even though lamed from two ribs being broken loose from the spine, continued to personally supervise her opal property up to 1938, climbing the steep mountains with the agility of youth. Her passing is mourned by many collectors on the Pacific Coast but her memory will be preserved in the many beautiful opals she caused to be produced in the Virgin Valley field.

With Our Dealers

Warner & Grieger, of Pasadena, Calif., are offering a large variety of rough gem cutting material in this issue. Do you need any for your shop? Better place your order early as some items may not last long!

H. Goudey, of Yerington, Nev., is featuring a number of choice western minerals. Even if you can't make trips to western localities you can still purchase good specimens from Goudey.

Mineral Supply House, of Spokane, Wash., is with us again and it too is featuring some choice western minerals, including Alaska. Can anyone pass up his tempting offers?

Another new dealer in this issue is Frank H. Waskey, of Aleknagik, Alaska, who is tempting collectors with an offering of choice metacinnabarite. Have you this specimen in your collection!

Jno. B. Litsey, of Dallas, Texas, has switched from minerals to fossils in this issue. These are attractive fossils!

V. D. Hill of Salem, Ore., is calling attention in this issue to his attractive 32 page catalog listing choice crystals, gemstones, and minerals. It is yours for the asking.

A new dealer makes his appearance in this issue. It is the Wiener Mineral Co., of 125 N. Stone Ave., Tucson, Ariz., and is offering some nice specimens of deep blue chrysocolla incrusted with quartz crystals.

H. Wiener, Box 509, Tucson, Ariz., also appears in this issue. These are two distinct dealers so do not mix them up.

Are you on the mailing list of W. Scott Lewis, of Hollywood, Calif.? For only 25¢ you will receive his very interesting *Mineral Bulletin* for one year. Send in your subscription today!